

**B109 Isolation of mangiferin and structure revision of shamimin from *Bombax malabaricum***A.A. Shahat<sup>a</sup>, R. Hassan<sup>b</sup>, N. Nazif<sup>b</sup>, F. Hammuda<sup>b</sup>, S. Van Miert<sup>a</sup>, L. Pieters<sup>a</sup> and A. Vlietinck<sup>a</sup><sup>a</sup> Department of Pharmaceutical Sciences, University of Antwerp, Universiteitsplein 1, B-2610 Antwerp, Belgium; e-mail: pieters@uia.ua.ac.be. <sup>b</sup> Department of Pharmaceutical Sciences, National Research Centre, 12311 Dokki, Cairo, Egypt.

*Bombax malabaricum* DC. (Bombacaceae) (Syn. *B. ceiba* L. and *Salmalia malabaricum* DC) is also known as silk-cotton tree. It is commonly found in the Indo-Pakistan subcontinent and other parts of Asia and Australia (1). The plant is well reputed for the treatment of diarrhoea, tumors, fever, dysentery, kidney and bladder ulceration, and chronic inflammation (2,3). Phytochemical investigation of different parts of this plant resulted in the isolation of naphthol, naphthoquinones, polysaccharides, anthocyanins and lupeol (4).

The 70 % alcoholic extract of the leaves of *B. malabaricum* was concentrated, kept in the refrigerator overnight, and centrifugated. The supernatant was successively extracted with CHCl<sub>3</sub>, EtOAc and BuOH. Repeated column chromatography of the BuOH fraction yielded compound **1** which was identified as 2C-β-D-glucosyl-1,3,6,7-tetrahydroxyxanthone (mangiferin) (4,5). The <sup>1</sup>H and <sup>13</sup>C-NMR data were in complete agreement with those reported for shamimin or 6C-β-D-glucosyl-3,5,7,2',4',5'-hexahydroxyflavone reported before from *Bombax ceiba* (3). Therefore we conclude that the structure of shamimin has to be revised, and that it is identical to mangiferin.

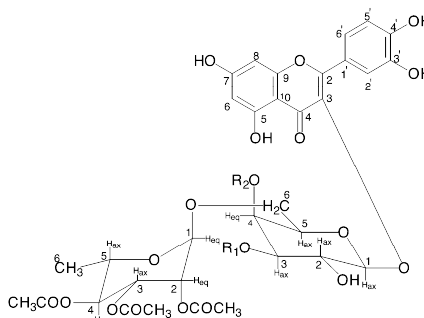
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**B110 Structure elucidation of three new acetylated flavonoid glycosides from *Centaurium spicatum***

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*Centaurium spicatum* (L.) Fritsch (Gentianaceae) is an annual herb occurring in Southern Europe and Northern Africa, where it is used together with other *Centaurium* species like *C. pulchellum* in traditional medicine. Alkaloids and secoiridoids have been reported before from *Centaurium spicatum*, but this is the first report on flavonoids from this plant. Three new acetylated flavonol glycosides, quercetin 3-O-(2,3,4-triacetyl-α-rhamnopyranosyl)-(1→6)-β-galacto-pyranoside (**1**), quercetin 3-O-[(2,3,4-triacetyl-α-rhamno-pyranosyl)-(1→6)]-3-acetyl-β-galactopyranoside (**2**), and quercetin 3-O-[(2,3,4-triacetyl-α-rhamnopyranosyl)-(1→6)]-4-acetyl-β-galactopyranoside (**3**) have been isolated and identified. Structure elucidation, especially the localisation of the acetyl groups, and complete <sup>1</sup>H and <sup>13</sup>C NMR assignments were carried out using one- and two-dimensional NMR methods, including <sup>1</sup>H and <sup>13</sup>C NMR, DEPT-135 and DEPT-90, and gradient-assisted experiments such as DQF-COSY, TOCSY, HSQC and HMBC (1).



- 1** R<sub>1</sub> = R<sub>2</sub> = H  
**2** R<sub>1</sub> = acetyl, R<sub>2</sub> = H  
**3** R<sub>1</sub> = H, R<sub>2</sub> = acetyl

**References:** **1.** Shahat A.A. et al. (2001) Magn. Reson. Chem. 39, 625-629.